

**AMENDMENTS TO THE DRAWINGS:**

*Please replace the drawings in this application with the amended drawings submitted  
herewith.*

### **REMARKS**

Entry of the foregoing and reconsideration of the subject application are respectfully requested in light of the amendments above and the comments which follow.

Claims 1-19 were pending in this application. In this response, claim 14 has been amended, claims 1-13 and 16-19 canceled and claims 20-26 added. Thus, claims 14-15 and 20-26 remain pending.

Support for the foregoing amendments can be found, for example, in at least the following locations in the original disclosure: the original claims, the drawing figures and the specification, paragraphs [0007], [0020], [0021], [0023]-[0026], [0033], [0038] and [0041].

### **DRAWINGS**

The drawings are objected to as detailed at paragraph 1 of the Official Action. Applicants submit concurrently herewith a Submission of Replacement Sheets of Drawings. Fig. 1F has been amended to include reference to time proportional power 10. This figure shows the difference in the time the circuit is on for a time period, for example, a time period of 6 half cycles. The original power 5 includes 4 half cycles (phases P01, N01, P02 and N03) over that period. The time proportional power 10 from the disclosed method includes 2 half cycles (phases P01 and N01) over that period. Although time proportional power 10 is on for only half the time of original power 5 (2/6 of cycles v 4/6 of cycles), it is at twice the power and therefore delivers the same power

over the time period. Withdrawal of the objection to the drawings is respectfully requested.

***REJECTIONS UNDER 35 U.S.C. § 103***

Claims 1, 2, 5, 8, 9, 14 and 16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,634,843 to Payne (hereafter "*Payne '843*") in view of U.S. Patent No. 6,246,831 to Seitz et al. (hereafter "*Seitz et al.*") on the grounds set forth on page 5 of the Official Action. This rejection is respectfully traversed.

The present application discloses a circuit to provide the same power characteristics to resistive elements wired in parallel as to one wired in series and fault tolerant assembly with the circuit. The load is divided into multiple equal components to achieve a balanced and equal distribution of power over the sub-sections. Other functions include redundancy, improved reliability, fault tolerance or alarm annunciation. One exemplary feature of the disclosed circuit is its installation in the circuit between an existing controller and reconfigured resistive elements to match the two devices.

Generally, the above characteristics and others are embodied in the claims. For example, claim 14, the only independent claim at issue here, recites, among other things, that the method divides an electrical resistive load among a plurality of load elements, the plurality of load elements electrically connected in parallel; and repeatedly: (a) time proportioning an AC power source, and (b) applying a half-cycle of the time-proportioned AC power source sequentially to each of the plurality of load

elements. A sum of the power provided to the plurality of load elements is equal to the power of the AC power source.

In reference to the prior art, Applicants submit the following:

- In general, none of the prior art appears to address the mismatch occurring when a conversion is done from series to parallel loads.
- In general, none of the prior art appears to address load redundancy. All multiple-element configurations appear to have been implemented for other reasons and do not disclose a unit being able to continue to function when one resistive element fails.

The following comments on the proposed rejection of Independent claim 14 are submitted.

*Payne '843* discloses two uneven (in power) heating elements on a cook-top so that the higher power one can be overdriven to give rapid heat-up or under-driven to give uniform heating. This disclosure includes joint/independent control of elements of different wattages. Rapid heat-up of two dissimilar loads is achieved. Thus and in contrast to the rejected claims, *Payne '843* does not disclose separate and equal power subsources. *Seitz et al.* discloses an instant flow-through fluid heater. *Sietz et al.* is cited for showing two equal resistive loads.

However, even if properly combined, the rejection does not disclose the present features of claim 14. Accordingly, because the rejection has not addressed all of the claim features, an obviousness rejection is improper. Reconsideration and withdrawal of the rejection is respectfully requested.

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Payne '843* in view of *Seitz et al.* and further in view of U.S. Patent No. 5,293,028 to *Payne* (hereafter "*Payne '028*"). Claim 4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Payne '843* in view of *Seitz et al.* and further in view of U.S. Patent No. 6,614,133 to *Belson et al.* (hereafter "*Belson et al.*"). Claim 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Payne '843* in view of *Seitz et al.* and further in view of U.S. Patent No. 4,377,739 to *Eckert, Jr. et al.* (hereafter "*Eckert, Jr. et al.*"). Claim 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Payne '843* in view of *Seitz et al.* and further in view of U.S. Patent No. 4,829,159 to *Braun et al.* (hereafter "*Braun et al.*"). Each of these rejections is traversed.

Each of the cited references proposed in combination with *Payne '843* in view of *Seitz et al.* does not contribute to overcoming the above-noted deficiency whereby *Payne '843* in view of *Seitz et al.* does not disclose all the features of the independent claim. For example, *Eckert, Jr. et al.* discloses a single load element with an improvement to reduce noise and produce even power and is related to an electrophotocopy machine. *Payne '028* discloses a cooktop with improved power controls. This reference relates a (current) maximum power setting to time since the unit was last heated. *Belson et al.* discloses multiple parallel power supplies, with some in standby depending on load conditions.

Because even the combination of *Payne '843* in view of *Seitz et al.* and further in view of the above references do not disclosure, teach or suggest all of the features of

the present claims, reconsideration and withdrawal of the obviousness rejections is respectfully requested.

Finally and with respect to new claim 24, none of the cited references discloses a power division circuit installed and functioning between an existing control system and resistive loads (in a slave configuration) as claimed in claim 24.

### **CONCLUSION**

From the foregoing, further and favorable action in the form of a Notice of Allowance is earnestly solicited. Should the Examiner feel that any issues remain, it is requested that the undersigned be contacted so that any such issues may be adequately addressed and prosecution of the instant application expedited.

Respectfully submitted,

DRINKER, BIDDLE & REATH LLP

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By: 

Jeffrey G. Killian  
Reg. No. 50,891

**CUSTOMER NO. 055694**  
**DRINKER, BIDDLE & REATH LLP**  
1500 K Street, N.W., Suite 1100  
Washington, D.C. 20005-1209  
Tel: (202) 842-8800  
Fax: (202) 842-8465

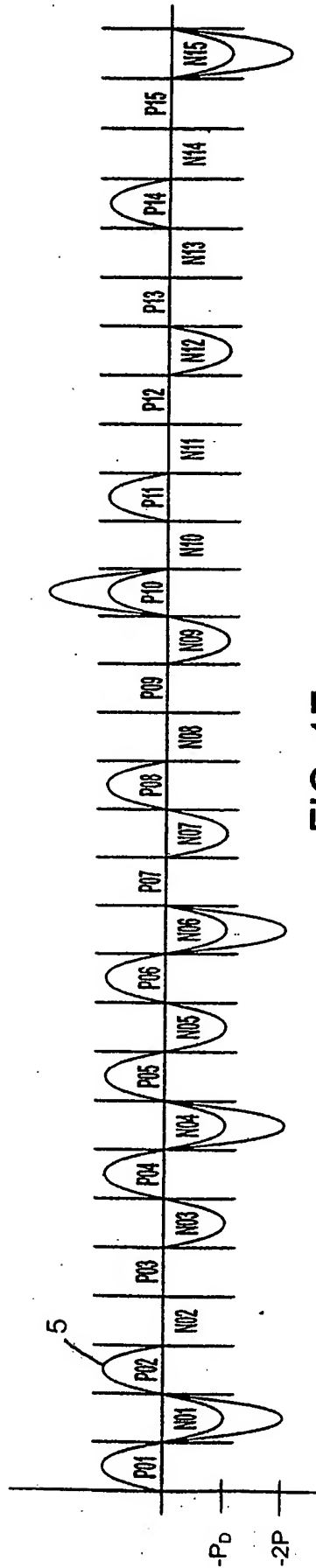


FIG. 1F

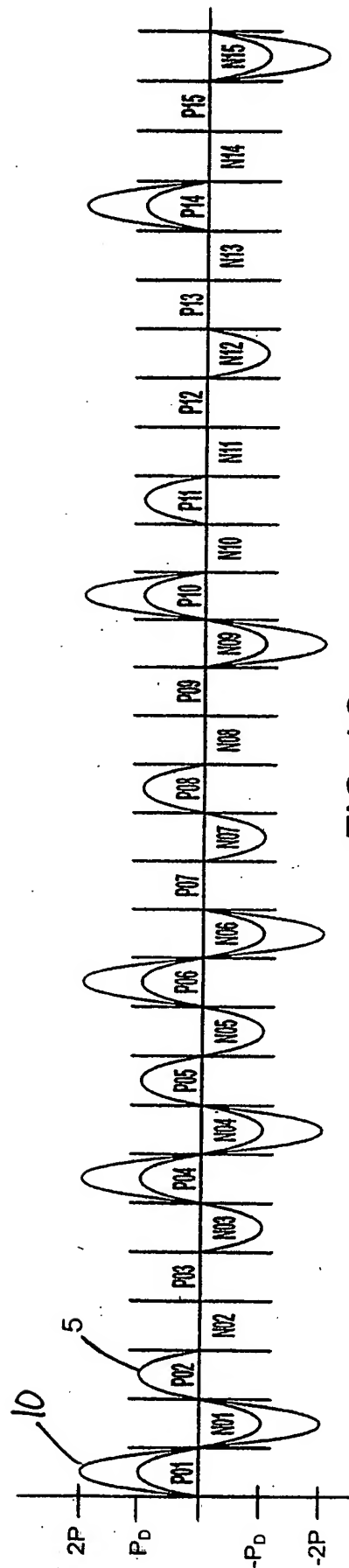


FIG. 1G